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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,440	06/26/2003	John Robert Lockemeyer	TH-1808 US	2927
Richard F. Lemuth Shell Oil Company Intellectual Property Services P. O. Box 2463 Houston, TX 77252-2463				
7590 05/12/2008			EXAMINER HAILEY, PATRICIA L	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 05/12/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/606,440

Applicant(s)

LOCKEMEYER ET AL.

Examiner

PATRICIA L. HAILEY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-38 is/are pending in the application.
4a) Of the above claim(s) 26-38 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 and 11-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 04/23/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on April 23, 2008, has been entered.

Applicants' submission includes an amendment, in which claims 1, 4, 20, and 26 have been amended; no claims have been canceled or added.

Claims 1-9 and 11-38 remain pending in this application.

Election/Restrictions

2. Claims 26-38 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected process for the epoxidation of an olefin (claims 26-37), and to a non-elected process for producing a 1,2-diol, 1,2-diol ether, or an alkanolamine (claim 38), there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 22, 2004.

Claims 1-9 and 11-25 remain under consideration by the Examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11 and 12 are indefinite because claim 11 recites a "method as claimed in claim 10"; claim 10 was canceled in an amendment filed on November 18, 2005.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. ***Claims 1-9 and 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauritzen (U. S. Patent No. 4,761,394, cited by Applicants in an Information Disclosure Statement filed on December 23, 2004).***

Lauritzen discloses catalysts useful in the vapor phase reaction of ethylene with oxygen to produce ethylene oxide, said catalysts prepared by impregnating porous refractory supports with silver ions or compound(s) sufficient to cause deposition on the support of from about 1 to about 25 percent by weight of silver; also deposited on the support either prior to, or coincidentally with, or subsequent to the deposition of the silver will be suitable alkali metal ions or compound(s) (considered to read upon **claims 3, 4, 19, and 20**). Further, suitable rhenium ions, complexes or compounds may be deposited on the support either prior to, or coincidentally with, or subsequent to the deposition of the silver. See col. 3, lines 3-20 of Lauritzen, as well as col. 11, line 32 to col. 12, line 2.

The support or carrier can be alpha-alumina, having a specific surface area ranging from about $0.03 \text{ m}^2/\text{g}$ to about $10 \text{ m}^2/\text{g}$, a pore size distribution such that at least 70% of the pore volume is represented by pore diameters greater than 1 micron, and a total pore volume of at least 0.26 cc/g (ml/g) . See col. 3, line 21 to col. 4, line 12 and Table 1 of Lauritzen (considered to read upon **claim 2**).

Because Lauritzen teaches an alpha-alumina support having a surface area comparable to that instantly claimed, the weight percentage range of the silver recited in Lauritzen is considered to read upon Applicants' claim limitations regarding the quantity of silver (e.g., **claims 1, 5, and 16-18**).

Patentee's catalysts have been shown to have a particularly high initial selectivity for ethylene oxide in the direct oxidation of ethylene with molecular oxygen; exemplary conditions for carrying out such an oxidation broadly comprise those already known in the art, including suitable temperatures, pressures, diluent materials (such as other saturated hydrocarbons). The suitable oxygen charge may consist essentially of relatively pure oxygen, or may comprise oxygen in a major amount with lesser amounts of one or more diluents. See col. 14, lines 39-66 of Lauritzen, as well as Table 2 thereof, which depicts exemplary process conditions used in commercial ethylene oxide reactor units (considered to read upon **claims 1, 6-9, 13-15, 21, 22, and 25**).

At col. 17, line 61 to col. 18, line 40 of Lauritzen, an illustrative embodiment is depicted in which a feed gas mixture comprising 30% ethylene, 8.5% oxygen, 7% carbon dioxide, 54.5% nitrogen, and 4.4-5.6 ppmv vinyl chloride is contacted with a catalyst at various temperatures for 1 or two hours, followed by obtaining performance data when the catalyst has been on stream for 16 ± 4 hours. This disclosure is considered to read upon **claims 11, 12, 23, and 24**.

Lauritzen does not specifically disclose a method for "improving the selectivity of a...catalyst", as recited in the instant claims. However, because Lauritzen discloses the same or similar method steps, conditions, and catalyst components as respectively

claimed, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect that the method of Lauritzen would result in improved catalyst selectivity, motivated by the similarities between Lauritzen and the claimed invention.

Response to Arguments

Applicants' arguments regarding the Hayden et al. reference (U. S. Patent No.4,007,135) have been carefully considered. However, as this reference does not teach or suggest the presence of rhenium, the 103(a) rejection affirmed by the Board of Patent Appeals and Interferences has been withdrawn.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/
Examiner, Art Unit 1793
May 9, 2008